

MONTHLY NOTICES

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 PROFESSOR CAYLEY, President, in the Chair.*

Sidney Waters, Esq., Oakhurst Lodge, Tufnell Park, and
Wm. Hy. Hermah, Wiltshire Road, Brixton,

were balloted for and duly elected Fellows of the Society.

Note addressed to the Astronomers of the United States, on the subject of the approaching Transit of Venus, at the suggestion of a distinguished European Astronomer. By R. A. Proctor, B.A., Cambridge.

During the course of correspondence which I have had on the subject of the approaching transit of *Venus* with one of the most eminent astronomers of this or any country, the idea has been suggested to me by him that advantage would result to science if an appeal were made to America to furnish forth expeditions to the Antarctic and sub-Antarctic regions for the purpose of making those Southern observations without which the Northern observations at Halleyan stations will be altogether useless. "America has frequently shown great interest," he remarks, "in southern exploration, while she also possesses good telescopes and competent observers to use them. Let both countries do their best, and science, which is of no country, will benefit all the more."

I gladly act upon this suggestion, remarking only that while

* Prof. J. C. Adams, F.R.S., was in the Chair at the April Meeting, not Prof. Cayley, as announced in the last Monthly Number.

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I recognise the abstract justice of the proposition that science is of no country, I cannot altogether free myself from the hope which I have long entertained and expressed, that in the struggle to advance scientific knowledge this country may worthily maintain her position.

My appeal to America is based on considerations which I have already urged elsewhere. If the great problem for which the coming transits are to be observed is really important to science (on which point no one, I suppose, can entertain any question), then the circumstances to which I advert are of no light significance.

We need not closely inquire whether one interpretation or another of the peculiarities of internal contact be correct. It is not a question whether one or another method have some slight or even considerable advantage. Nor again is it a question whether this or that Antarctic or sub-Antarctic station can be occupied or not.

What I urge on our American fellow-students of astronomy, as I have urged and still urge at home, is the adoption of arrangements for occupying *many* stations in the Southern hemisphere, lest the whole matter end in failure, or in a success so partial as to compare very unfavourably with what was accomplished in 1769. I mention as a mere detail, that the distinguished astronomer whose advice I am following, altogether concurs in my opinion that the *duration* of the transit should be observed at as many favourably situated Southern stations as possible. And every one who considers what Russia, America, and Germany are preparing to do at northern stations,—no less than sixteen of which are to be occupied where durations can be favourably observed,—must feel how necessary it is to call attention to the fact that at present there are but four or five third-class Southern stations for observing durations, and only one first-class station. But though I cannot but dwell on this fact, fortified as it is by the circumstance that the photographic and direct methods are equally ill provided for, I do not rest my appeal on details of the sort. It is the risk of absolute failure, and the certainty that the Southern stations hitherto provided for are insufficient in number, to which I earnestly invite the attention of American astronomers.*

The region to be occupied is indicated in the chart which appears in the present monthly number. Of Antarctic stations there are Enderby Land, Sabrina Land, Adélie Land, and Possession Island, as well as the whole region (including these places) surveyed by Wilkes, Ross, D'Urville, Billingshausen, and others. Of sub-Antarctic stations there are Kemp Island, Macdonald Islands, Emerald Island, the Crozets, Royal Co. Island,

* Granting even that fine weather prevailed at each of the few Southern stations, the probable error of the resulting determination of the solar parallax must necessarily be enhanced when the Southern stations are so few compared with the Northern.

and others, very uninviting beyond all question, but doubtless including several accessible stations. Unfortunately there is now little time for preliminary survey during the Antarctic summer of 1873-74; but if such survey cannot be undertaken, then in the autumn (or Antarctic spring) of 1874, two or three ships (preferably steam ships) might proceed direct to the region indicated, each conveying two or three well-provided observing parties, and combining reconnaissance with the occupation of stations as they were successively selected.

That it is perfectly in the power of this country and America to ensure the requisite number of Southern observations of the coming transit, I am satisfied. There is, it is true, no time for delay. Energy and skill will be wanted; but they have never been looked for in vain in such circumstances. The expeditions which would have to be made would be no pleasure-parties, nor would they be free from difficulties and dangers sufficient to tax the courage even of British and American seamen. But these very considerations encourage the students of science in both countries to believe that the required effort will be made. That it should be made, if failure is to be averted, does not seem to me to be open to the slightest question.

List of Stations selected for Observation of the Transit of Venus by Russian Astronomers. By M. Otto Struve.

(Communicated by the Astronomer Royal.)

The following is a corrected list of stations for the observation of the Transit of *Venus*, as fixed at the General Meeting of the Russian Committee held on March 22, 1873:—

Station.	Latitude.	Longitude E. of Greenwich. <div>h m</div>	Instrument to be employed.	Proportion of Clear Sky in beginning of December.
				Per Cent.
1. Nakhodka	42° 48'	8 51.4	6-in. refractor	80-85
2. Port Possiet	42 40	8 43.0	Photoheliograph; 4-in. telescope	80-85
3. Hanka	45 4	8 50.0	Heliometer	80-85
4. Busse	46 24	9 15.0	3-in. telescope	unknown
5. Jeddo	35 36	9 19.0	4-in. telescope	unknown
6. Pekin	39 54	7 45.7	4-in. telescope	80
7. Habarowka	48 16	8 58.8	3-in. telescope	80-85
8. Nertschinsk	51 18	7 58.5	Heliometer; 4-in. telescope	70-80
9. Tschita	52 1	7 34.0	4-in. telescope	90
10. Kiakhta	50 20	7 6 7	Photoheliograph; 4-in. telescope	70-80
11. Blagoweschtschensk	50 15	8 30.5	Heliometer; 4-in. telescope	80-85